

REMARKS

This responds to the Office Action mailed on August 28, 2008.

Claims 27, 44, and 50 are amended. Claims 27, 36-38, and 44-52 are pending in this application.

§103 Rejection of the Claims

Claims 27, 36-38, and 44-52 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kumar et al. (U.S. 6,541,164, "Kumar") in view of Applicant's admitted prior art ("APA"), or in the alternative, as being unpatentable over Kumar in view of the APA and Chen et al. (U.S. 4,905,073, "Chen"). Claims 27, 44, and 50 were amended to clarify the present subject matter.

Firstly, Applicant does not admit that Kumar is prior art and respectfully reserves the right to swear behind the Kumar reference at a later date.

Additionally, Applicant respectfully traverses the rejection and submits that obviousness does not presently exist for these claims because Kumar, APA (if any), and Chen and/or the reasoning of the Office Action do not teach or suggest all of the elements of the claims.

For example, Applicant cannot find in the cited portions of the references or the Office Action's reasoning, among other things,

a layer comprising $\text{Si}_x\text{N}_y\text{O}_z\text{:H}$ formed over and in physical contact with the metal silicide layer, wherein x is from 0.39 to 0.65, y is from 0.02 to 0.56, and z is from 0.05 to 0.33; ... wherein a thickness of the layer comprising $\text{Si}_x\text{N}_y\text{O}_z\text{:H}$ ranges between a value that is greater than about 300 Angstroms (Å) to a value of approximately 650 Å; and a silicon nitride layer on the layer comprising $\text{Si}_x\text{N}_y\text{O}_z\text{:H}$ and having a thickness greater than 1000 Å, ... and wherein the final thicknesses of both the silicon nitride layer and the layer comprising $\text{Si}_x\text{N}_y\text{O}_z\text{:H}$ are optimized in combination to minimize reflection back into a overlying layer of photoresist,

as presently recited in claim 1 and incorporated into claims 36-38, and similarly recited in claims 44 and 50 and incorporated into claims 45-49 and 51-52.

The Office Action refers to the statement in Applicant's disclosure that "[s]uch adjustment of stoichiometry can be adjusted with routine experimentation utilizing methods

known to persons of ordinary skill in the art.”¹ However, this statement does not refer to adjustment of thickness of both of the silicon nitride layer and the layer comprising $\text{Si}_x\text{N}_y\text{O}_z\text{:H}$. The application of the statement in the Office Action goes further than Applicant intended. Applicant’s disclosure refers to adjustment of thickness as “another way” (i.e. different from) such adjustment of stoichiometry. Therefore, Applicant respectfully submits that Applicant’s disclosure does not state that one of ordinary skill would be led to optimize both the layers to minimize reflection back into an overlying layer of photoresist. Therefore, because the element is not characterized as prior art in the present Application and because the element is not taught or suggested by Kumar nor Chen, either separately or in combination, Applicant respectfully submits that the proposed combination of Kumar, Chen, and any APA does not teach or fairly suggest all of the elements recited or incorporated into the claims.

Additionally, one of ordinary skill in the art would not reasonably be led to combine Kumar with Chen. Chen refers to thermal annealing to form titanium silicide from silicon and a layer of titanium.² Kumar already refers to a tungsten silicide layer 22 used as a conductive layer.³ One of ordinary skill would not reasonably be led to combine Kumar with Chen to provide a silicide structure already referred to in Kumar. The Office Action states that it would have been obvious to the ordinary artisan ... to modify Kumar by annealing the metal silicide layer for the purpose of improving the resistivity. However, the annealing is apparently used to form the silicide layer, and one of ordinary skill in the art would not be led to provide a silicide structure similar to what is already provided in Kumar.

In sum, at least for the reasons that the proposed combination of Kumar and Chen fails to teach or suggest all of the elements recited or incorporated into the claims, and that one of ordinary skill would not reasonably be led to combine Kumar with Chen, Applicant respectfully requests reconsideration and allowance of claims 27, 36-38, and 44-52.

¹ Office Action, pgs. 3-4.

² Chen, col. 3 lines 31-58.

³ Kumar, col. 8 lines 51-61.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 371-2172 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date Dec. 29, 2008

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 29, 2008.

Name Amy Moriarty

Signature [Handwritten Signature]